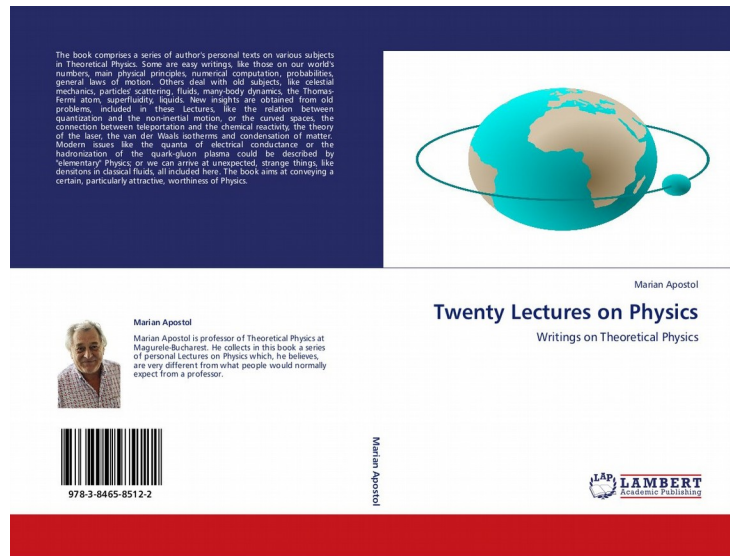


## Special Books

### 1 **Twenty Lectures on Physics (Writings on Theoretical Physics), Lambert, 2012** **(235 pp) (978-3-8465-8512-2)**



The book comprises a series of M. Apostol's personal texts on various subjects in Theoretical Physics (Condensed Matter, Solid State Physics, Nuclear Physics, Classical Physics.). The book aims at conveying a certain, particularly attractive, worthiness of Physics. These Lectures on Physics, the author believes, are very different from what people would normally expect from a professor.

### 2 **Studies in Theoretical Physics (Selected Works 1972-2012). Elsevier, 2012** **(cca 800pp) ( 20360-21036)**

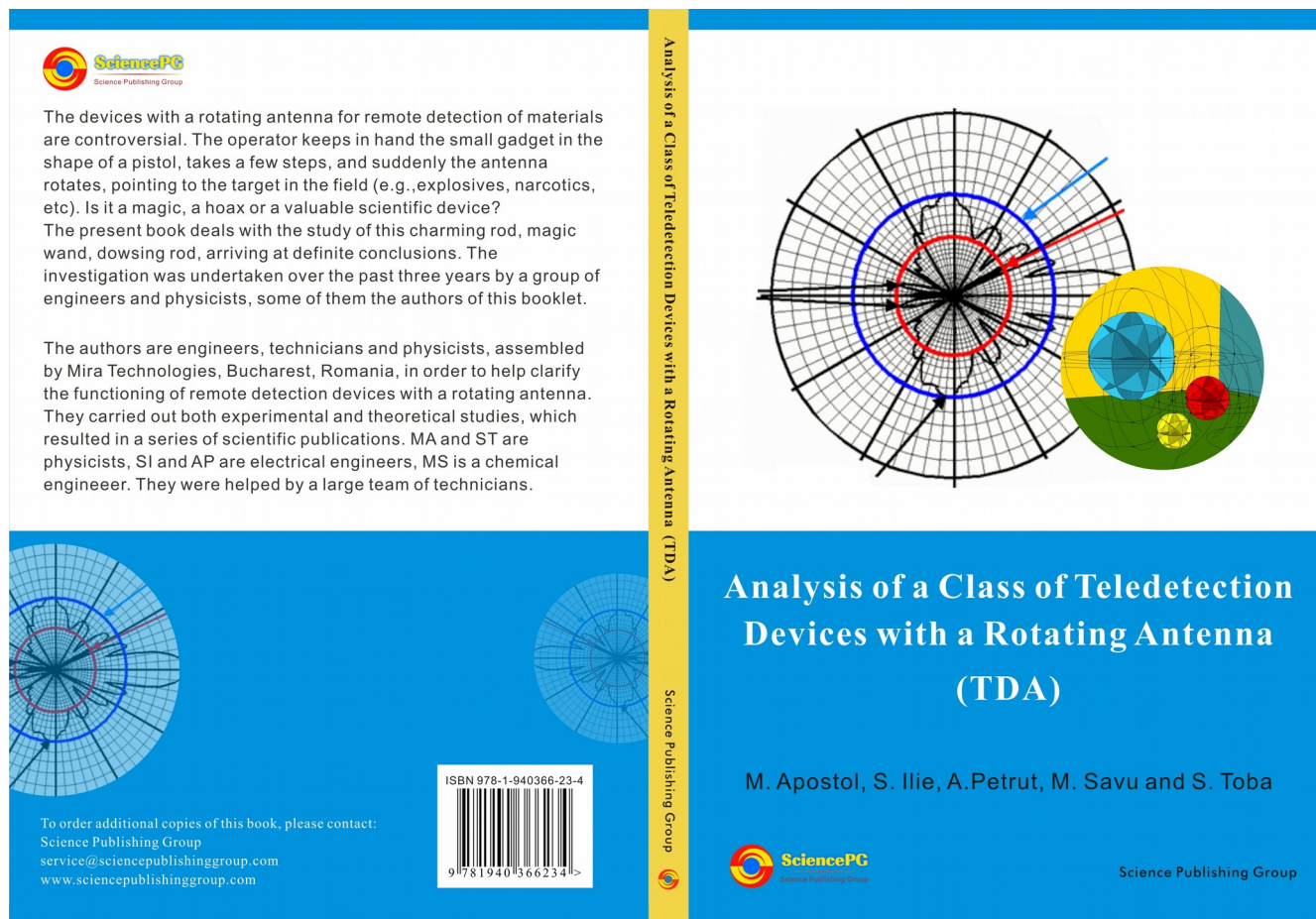
More than 100 original papers by M. Apostol, published between 1972-2012 in scientific journals.

### 3      **Essays in Electromagnetism and Matter (Dipoles and Polarization), Lambert, 2013 (261 pp) (978-3-659-41179-3)**



The book is devoted to various problems arising in electromagnetic field interacting with matter. It belongs to what is usually called Electrodynamics of Continuous Media, or Classical Electromagnetism in Matter, or Optics and the Theory of Electrons. These subjects are usually left at a quasi-empirical or semi-phenomenological level. The present book introduces explicitly the degrees of motion of the electric polarization and magnetization of matter. This new approach renders Maxwell equations in matter a determined system of equations and allows specific solutions for a series of problems which might be of interest in today's nanoplasmonics and nanophotonics. The book includes both a basic exposition of fundamental things in Electromagnetism and various particular problems, some of them collected from papers published in scientific journals.

**4 Analysis of a Class of Teledetection Devices with a Rotating Antenna, M Apostol, S Ilie, A Petrut, M Savu and S Toba, Science Publ Group, NY, 2014 (134 pp) (978-1-940366-26-5)**



- 5      The Theory of Earthquakes, Cam. Int. Sci. Publ., Cambridge (2017) (352 pp)  
(978-1-910889-51-0 (ebook: 978-1-910889-52-7)), by B. F. Apostol
- 6      Introduction to the Theory of Earthquakes, Cam. Int. Sci. Publ., Cambridge  
(2017) (86 pp) (978-1-910889-53-4 (ebook: 978-1-910889-54-1)), by B. F. Apostol



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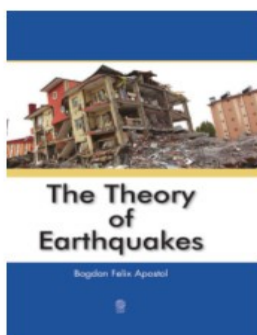
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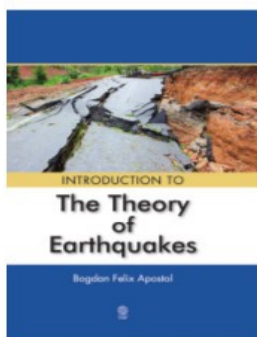
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The book provides a description of the theory of earthquakes, starting with the tensorial force of the seismic moment and including the static deformations, the primary spherical-shell P and S waves and the seismic main shock. Vibrations of the spherical Earth and elastic half-space are presented and elements of seismometry and structural engineering are included. Also, earthquakes produced by explosions, meteorites or involving seas and oceans are described and the mechanism of earthquakes focus is discussed. The book introduces the notion of elementary earthquakes.

The presentation is made by using the theory of elasticity for isotropic elastic solids, elements of the physics of fluids and equations of mathematical physics. Special attention is given to the effect of the boundaries and inhomogeneities.

#### Contents

1 Preface; 2 Introduction; 3 Elasticity; 4 Elastic Waves; 5 Static Problems; 6 Local Waves; 7 Vibrations; 8 Special Problems; 9 Fluids; 10 Elements of Structural Engineering; 11 Commentaries on Seismological Problems; 12 Appendix



### INTRODUCTION TO THE THEORY OF EARTHQUAKES

*Bogdan Felix Apostol, Institute for Earth Physics, Romania*

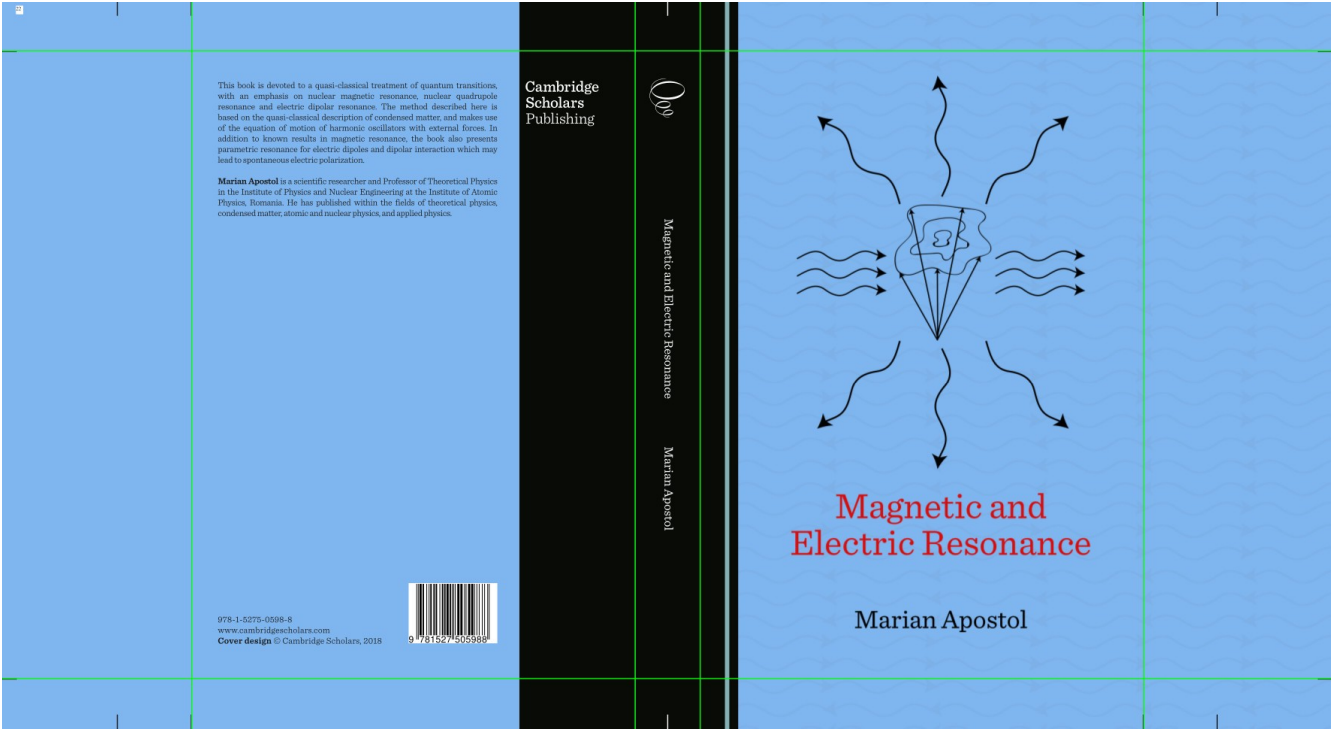
**ISBN 978-1-910889-53-4, 86 pages – Hardback –  
August 2017, £30.00/\$40.00;  
ebook (PDF): 978-1-910889-54-1; £25.00/\$32.00**

This booklet is an introduction to the basic concepts of the physics of earthquakes. It may be viewed as a short summary of the author's larger book *Theory of Earthquakes* (also published by Cambridge International Science Publishing (see above, ISBN 978-1-910889-51-0)). The booklet introduces the tensorial force of the seismic moment, the notion of elementary earthquakes and presents the static deformations, the primary seismic waves and the seismic main shock produced by the tensorial force in an isotropic elastic half-space. The mechanism of the earthquake focus and vibrations of the spherical Earth and the half-space are also described, as well as earthquakes produced by meteorites or related to seas and oceans. The seismic effects of the explosions are included, as well as elements of structural engineering. The presentation makes use of the theory of elasticity, physics of fluids and equations of mathematical physics.

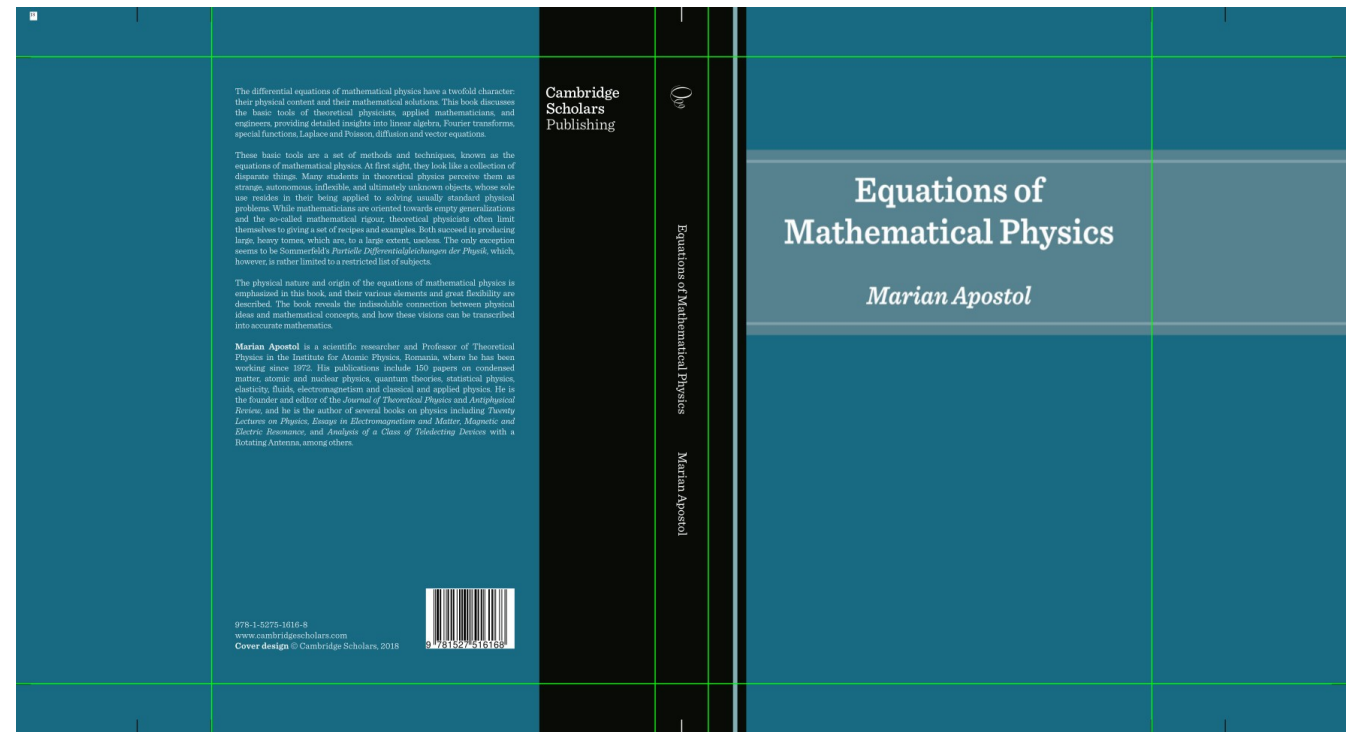
#### Contents

1. Foreword; 2. Introduction; 3. Seismic Waves; 4. Seismic Half Shock; 5. Static Deformation of the Half-Space; 6. Focal Mechanism; 7. Inhomogeneities; 8. Meteorites, Explosions and Seismic Radiation; 9. Vibrations of the Elastic Half-Space; 10. Site Amplification Factors

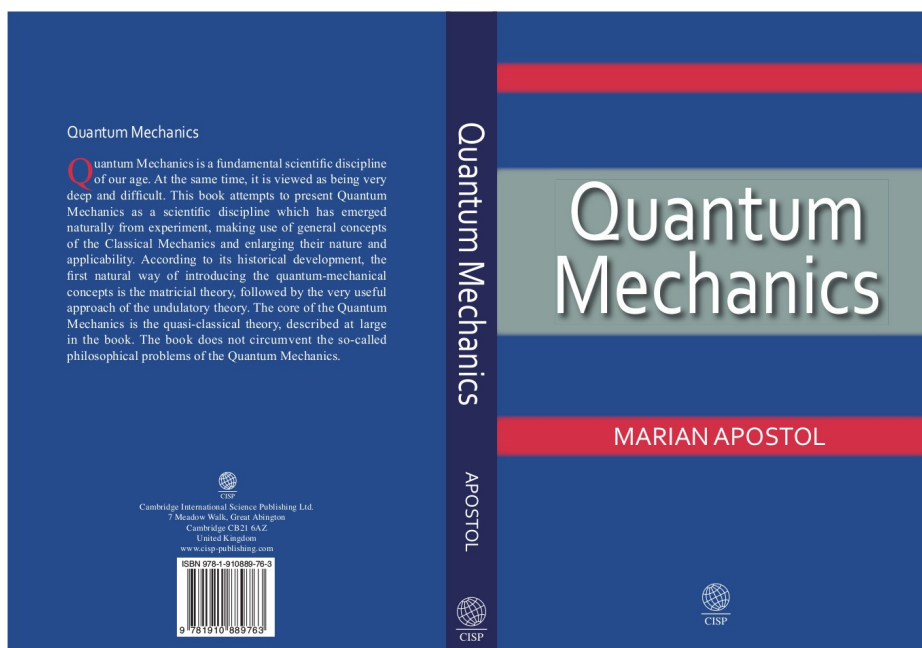
**7      Magnetic and Electric Resonance, Cambridge Scholars (2018) (340 pp) (978-1-5275-0598-8)**



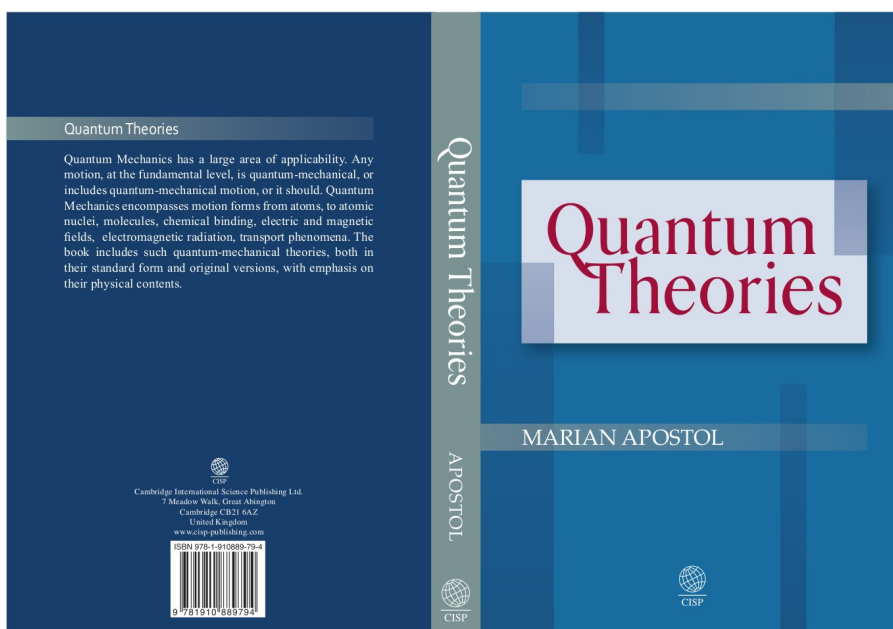
**8      Equations of Mathematical Physics, Cambridge Scholars (2018) (240 pp) (1-5275-16116-4, 978-1-5275-16116-8)**



- 9 **Quantum Mechanics, Cam. Int. Sci. Publ., Cambridge (2018) (244pp) (978-1-910889-76-3), M. Apostol**



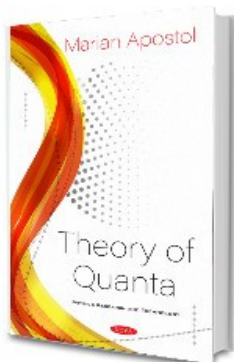
- 10 **Quantum Theories, Cam. Int. Sci. Publ., Cambridge (2018) (243pp) (978-1-910889-79-4), M. Apostol**



## **AUTHOR: Marian Apostol**

Marian Apostol is a PhD, scientific researcher and professor of theoretical physics in the Institute for Physics and Nuclear Engineering and Institute for Atomic Physics, Magurele, where he works since 1972. His scientific activity is incorporated in about 150 papers in condensed matter, atomic and nuclear physics, quantum theories, statistical physics, elasticity, fluids, electromagnetism and classical and applied physics. He is the founder and editor of the Journal of Theoretical Physics and Antiphysical Review and the author of several books on physics (Twenty Lectures on Physics, Essays in Electromagnetism and Matter, Magnetic and Electric Resonance, Analysis of a Class of Teledetecting Devices with a Rotating Antenna, etc).

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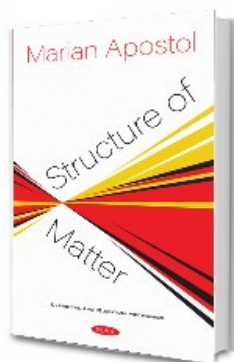


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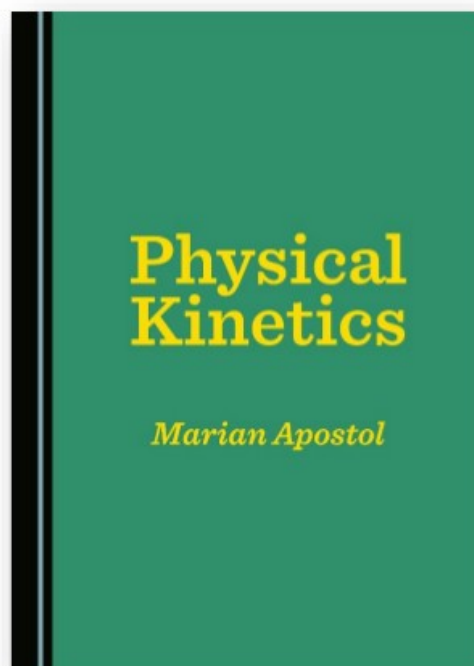
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**Marian Apostol** is a Scientific Researcher and Professor of Theoretical Physics in the Institute for Physics and Nuclear Engineering and the Institute of Atomic Physics, Magurele, Romania, where he has worked since 1972. He has published around 150 papers on condensed matter, atomic and nuclear physics, quantum theories, statistical physics, elasticity, fluids, electromagnetism, and classical and applied physics. He is the founder and editor of the Journal of Theoretical Physics and Antiphysical Review, and the author of several books on physics, including Twenty Lectures on Physics; Essays in Electromagnetism and Matter; Magnetic and Electric Resonance; Equations of Mathematical Physics; Theory of Quanta; Structure of Matter; and Analysis of a Class of Teledetecting Devices with a Rotating Antenna.



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**13. A lame Duck-Quantum Electrodynamics, apoma MG, 1453-4428, 4436 (2020)**

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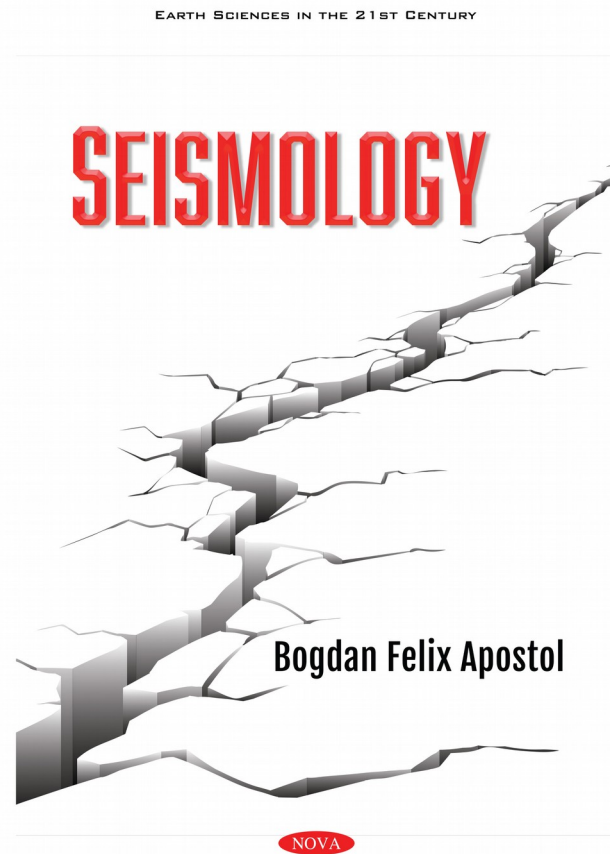
**14. Seismology, Nova Sci. Publs., NY (2020) (335 pp) (978-1-53618-492-1),  
by B. F. Apostol**

This book offers a comprehensive physical theory of the earthquakes. The presentation level is rather mathematical, but thorough physical explanations are provided everywhere. It is an original monograph of Seismology, intended for the use of students, researchers and the public who wish to become familiar with the physics and mathematics of earthquakes. It provides the understanding of the earthquakes and specific knowledge we may have of them. The author is a scientific researcher in the Institute for Earth's Physics at Magurele, with scientific publications on the theory of elasticity, focal mechanism of earthquakes, seismic waves and statistical analysis of seismic events.



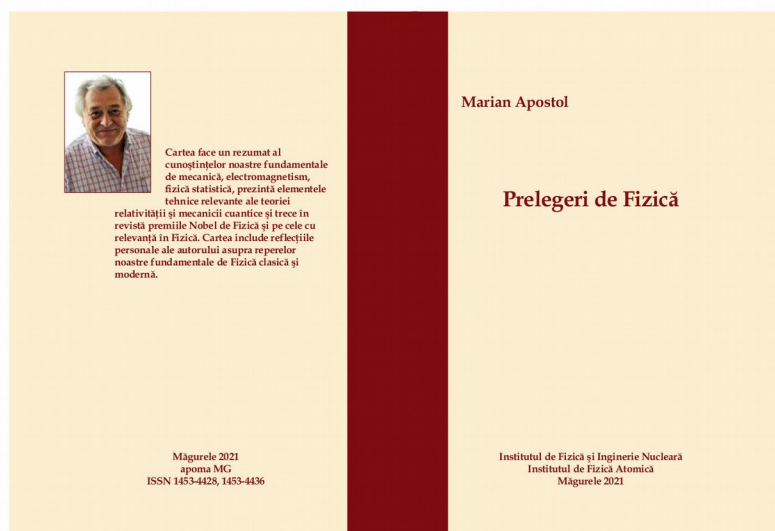
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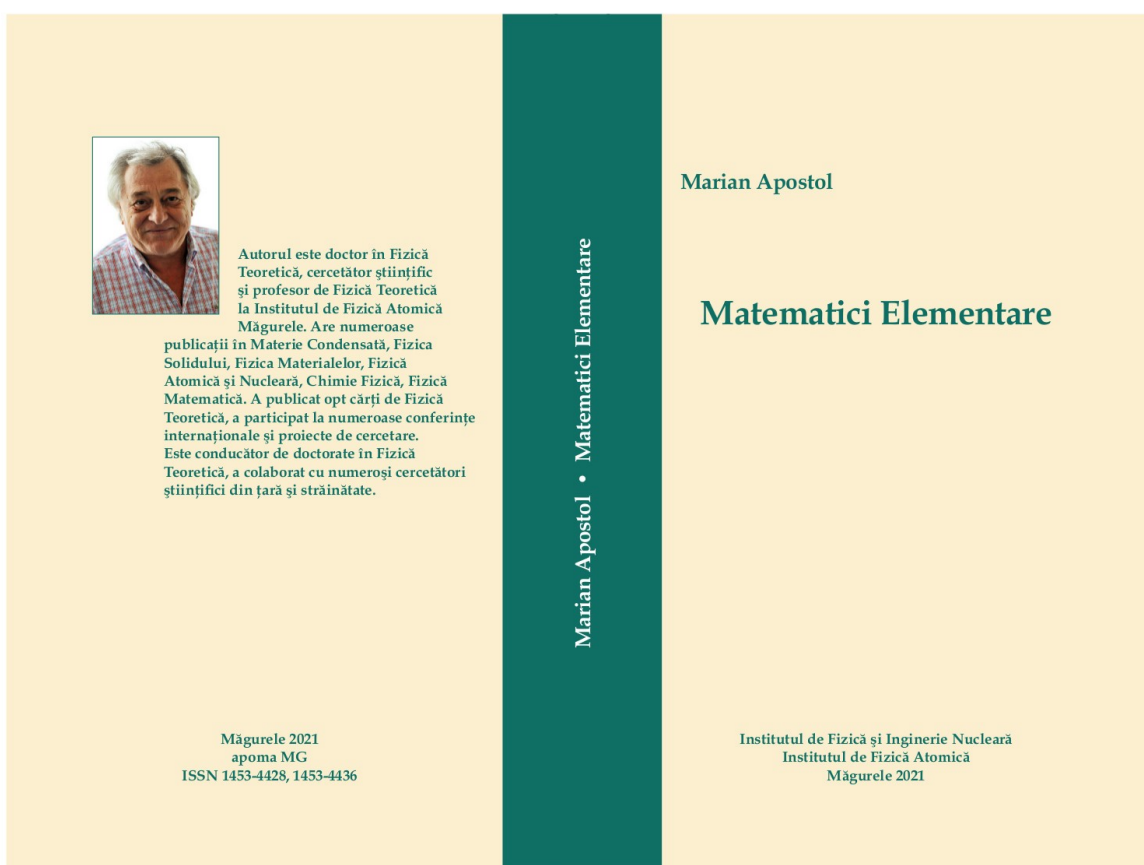
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## 18. Statistical Physics, M. Apostol

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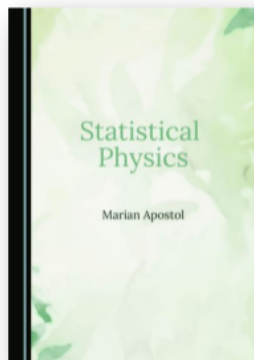
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### By Marian Apostol



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This book explores statistical physics, with an emphasis on the distinct character of the statistical motion and difficult subjects, related, mainly, to condensed matter. It discusses the interaction problem in real gases, as well as dimensionality effects and melting. The book shows how to estimate easily the critical temperature of the Ising ferromagnets, the origin of the drag force, how to get an inverse-wind vortex in turbulence, the entropy of the earthquakes, and how the gas-liquid transition occurs. It also describes the hadronization of the quark-gluon plasma, the phase diagram of the quantum chromodynamics, and the thermodynamics of black holes.

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#### About the Author

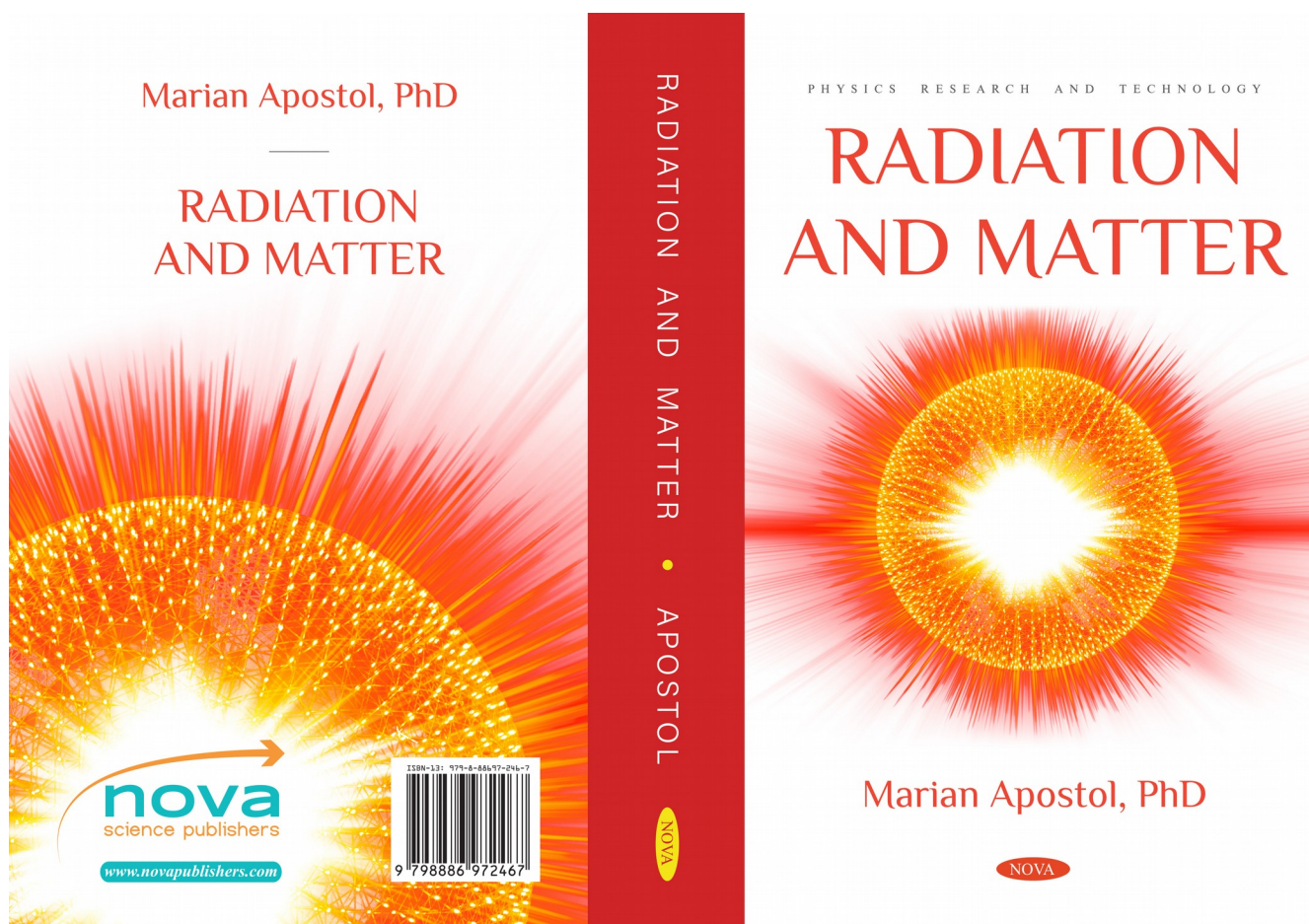
**Marian Apostol** is a scientific researcher and Professor of Theoretical Physics in the Institute for Physics and Nuclear Engineering and the Institute for Atomic Physics, Romania, where he has worked since 1972. He is the author of 150 papers on condensed matter, atomic and nuclear physics, quantum theories, statistical physics, elasticity, fluids, electromagnetism, and general and applied physics. He is the founder and editor of the *Journal of Theoretical Physics* and the *Antiphysical Review* and the author of several books on physics, including *Twenty Lectures on Physics*, *Essays in Electromagnetism and Matter*, *Magnetic and Electric Resonance*, *Equations of Mathematical Physics*, *Quantum Mechanics*, *Quantum Theories*, and *Physical Kinetics*.

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**19. Radiation and Matter, Nova Sci. Publs., NY (2022) (317 pp) (978-1-68507-930-7), by M. Apostol**



**20. A Guide to Practical Seismology, Cambridge Scholars, 2023, 978-1-5275-9036-6 (296 pp), by B. F. Apostol and L. C. Cune**

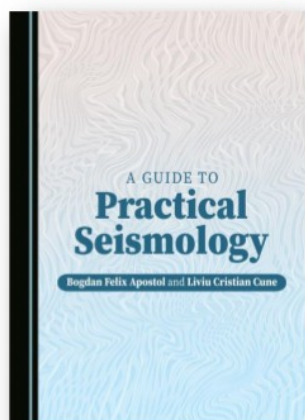
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**Book Description**

This book presents 10 specific actions to be undertaken in order to provide results of practical relevance in seismology. From the statistical analysis of earthquakes, we can estimate the earthquake mean recurrence time and the probability of occurrence of the next earthquake. In addition, through statistical analysis, we can identify correlated foreshocks and estimate the occurrence time of the main shock. As the book shows, the general state of seismicity of a given seismic region can be assessed by statistical means, in particular the earthquake entropy. From measurements of the seismic waves on the Earth's surface, we can deduce the tensor of the seismic moment, the earthquake's energy and magnitude, as well as the orientation of the fault, the fault slip, the focal volume and the duration of the seismic activity.

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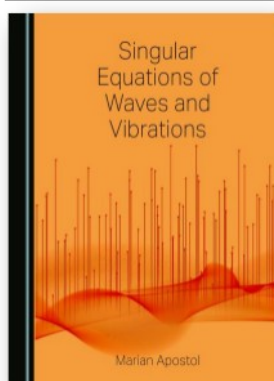
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### About the Author

**Marian Apostol** is a scientific researcher and a professor of theoretical physics at the Institute for Physics and Nuclear Engineering and Institute of Atomic Physics, Magurele, Romania. He has published 150 papers on condensed matter, atomic and nuclear physics, quantum theories, statistical physics, elasticity, fluids, electromagnetism, and general and applied physics. He is the founder and editor of the *Journal of Theoretical Physics and Antiphysical Review*, and the author of several books on physics, including *Twenty Lectures on Physics*; *Essays in Electromagnetism and Matter*; *Magnetic and Electric Resonance*; *Equations of Mathematical Physics*; *Theory of Quanta*; and *Structure of Matter, Physical Kinetics, Statistical Physics*.

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